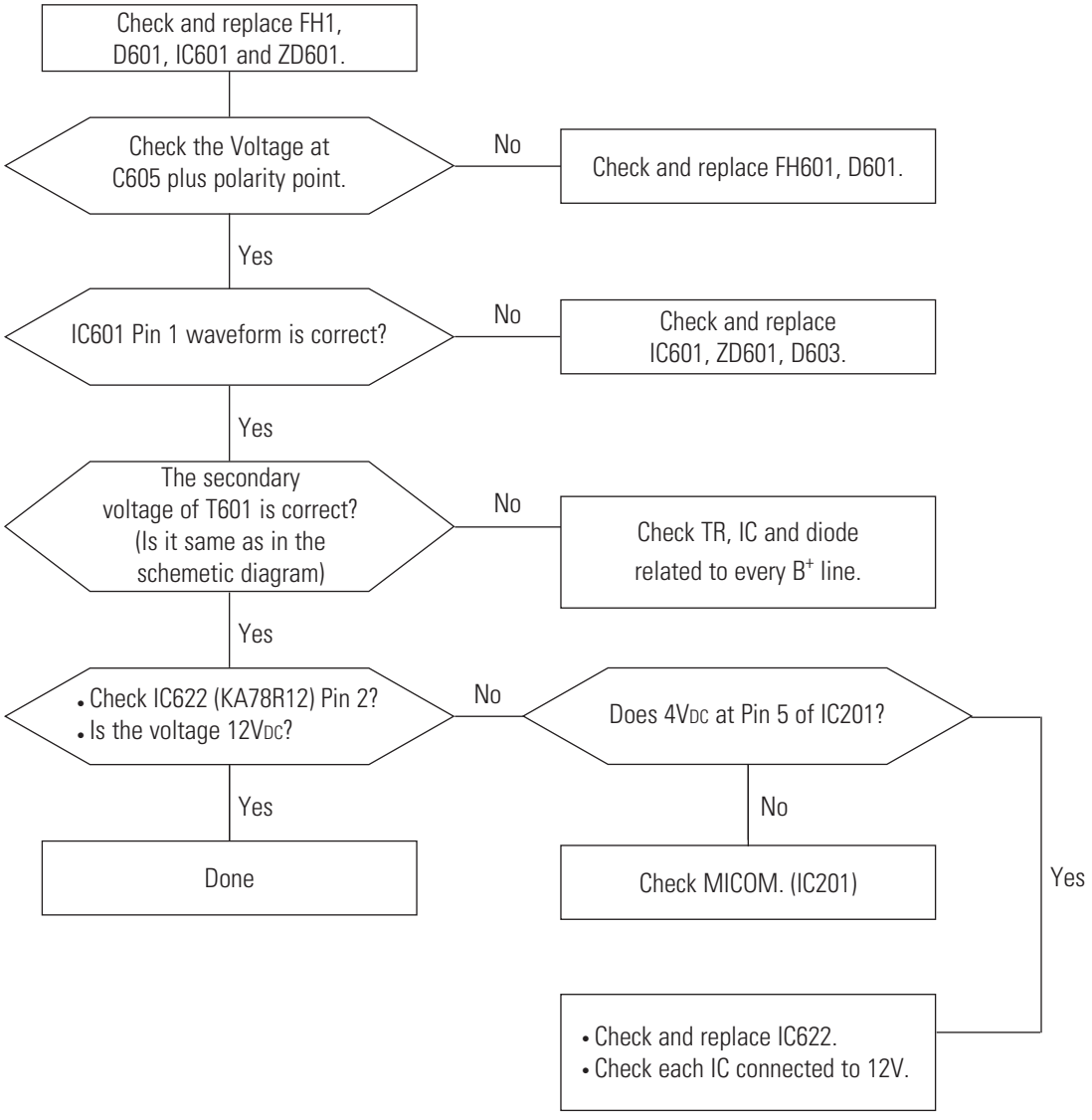
5 Troubleshooting

5-1 Parts Level Troubleshooting

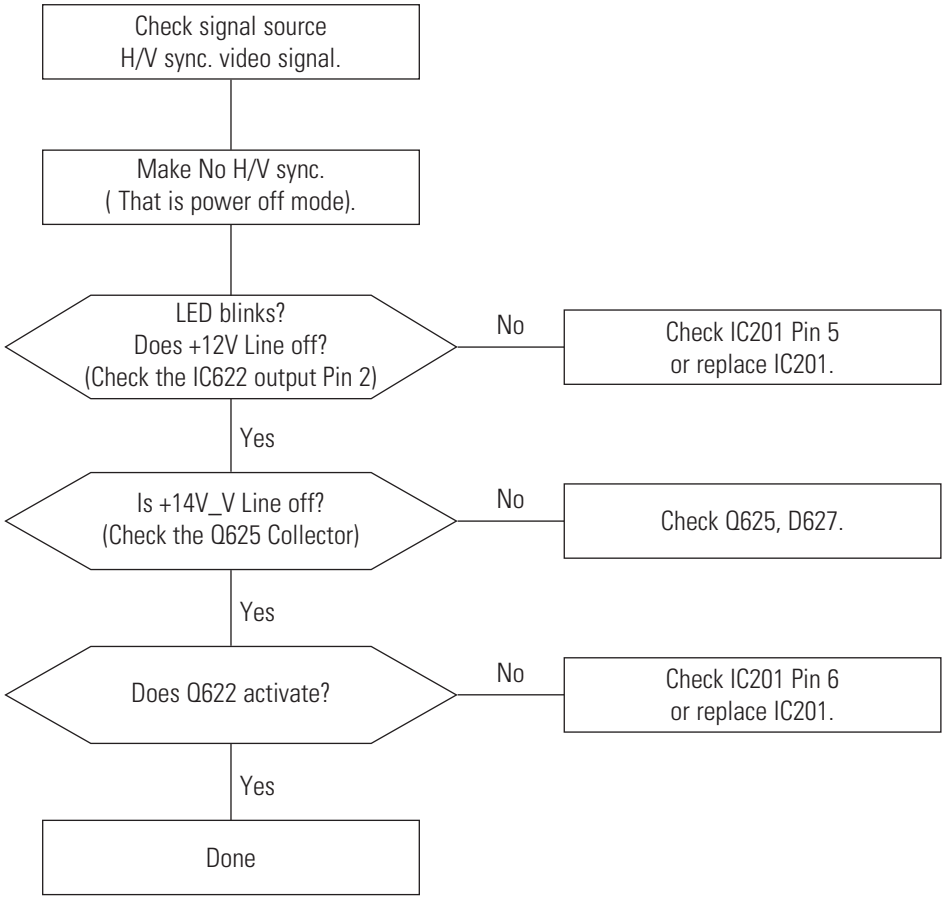
Notes: 1. If a picture does not appear, Click the Brightness and Contrast button on the front panel, and then increase the value of Brightness and Contrast.

2. Check the following circuits.
   - No raster appears: Power circuit, Horizontal output circuit, H/V control circuit, and H/V output circuit.
   - High voltage develops but no raster appears: Video output circuits.
   - High voltage does not develop: Horizontal output circuits.

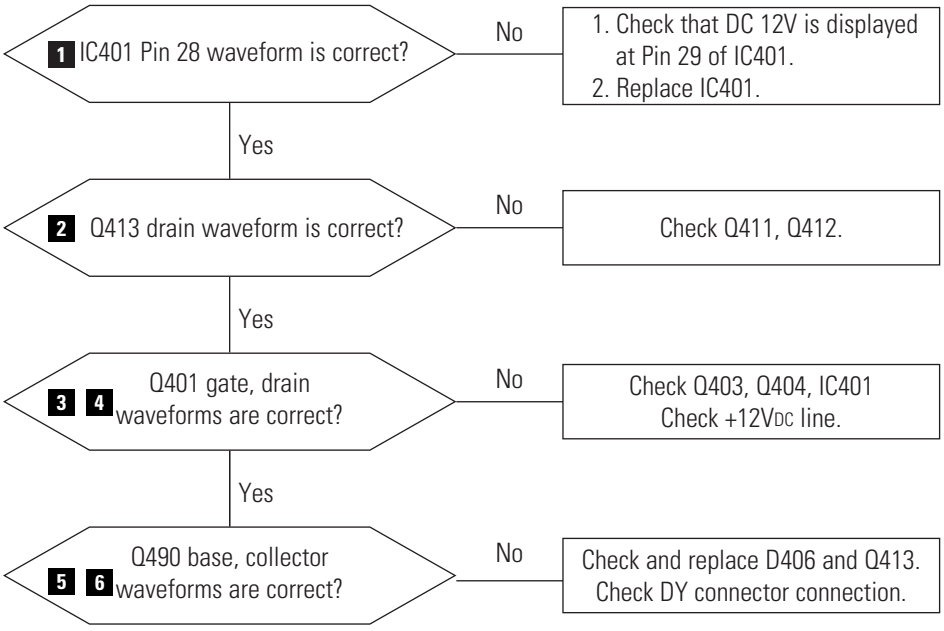
5-1-1 No Power Supply


Check and replace FH1, D601, IC601 and ZD601.
Check the Voltage at C605 plus polarity point.
No
Check and replace FH601, D601.
Yes
IC601 Pin 1 waveform is correct?
No
Check and replace IC601, ZD601, D603.
Yes
The secondary voltage of T601 is correct? (Is it same as in the schemetic diagram)
No
Check TR, IC and diode related to every B+ line.
Yes
• Check IC622 (KA78R12) Pin 2?
• Is the voltage 12VDC?
No
Does 4VDC at Pin 5 of IC201?
Yes
No
Yes
Done
Check MICOM. (IC201)
• Check and replace IC622.
• Check each IC connected to 12V.

5-1-2 DPMS Failure

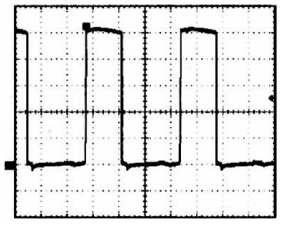


5-1-3 H_Deflection Failure



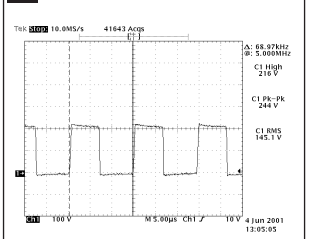
WAVEFORMS

1 IC401, #28

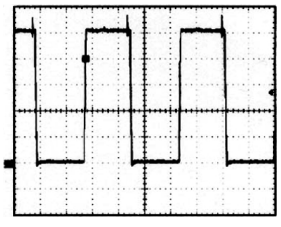


CH1 P-P = 10.96 V CH1 RMS = 6.180 V

2 Q413, Drain

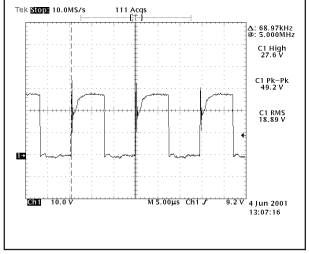


3 Q401, Gate

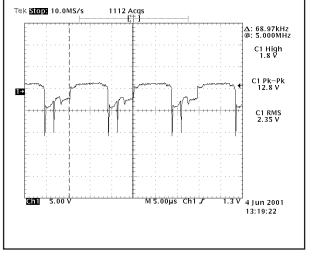


CH1 P-P = 11.6 V CH1 RMS = 6.944V

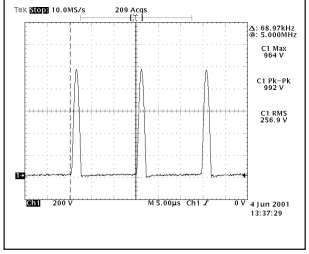
4 Q401, Drain



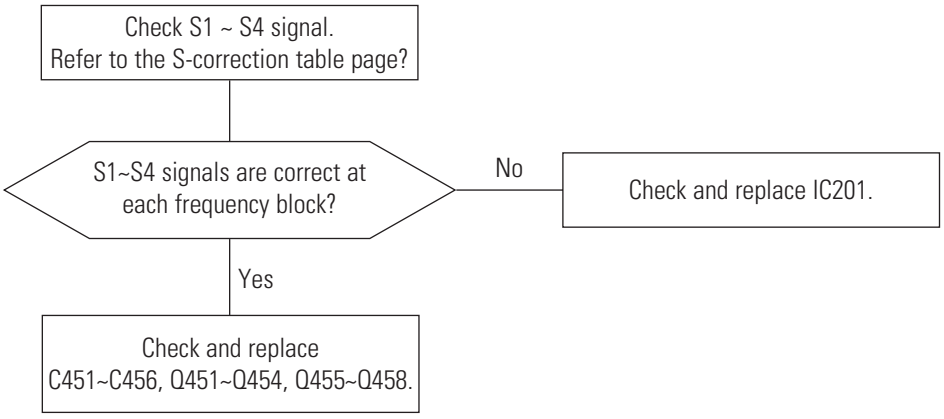
5 Q490, Base



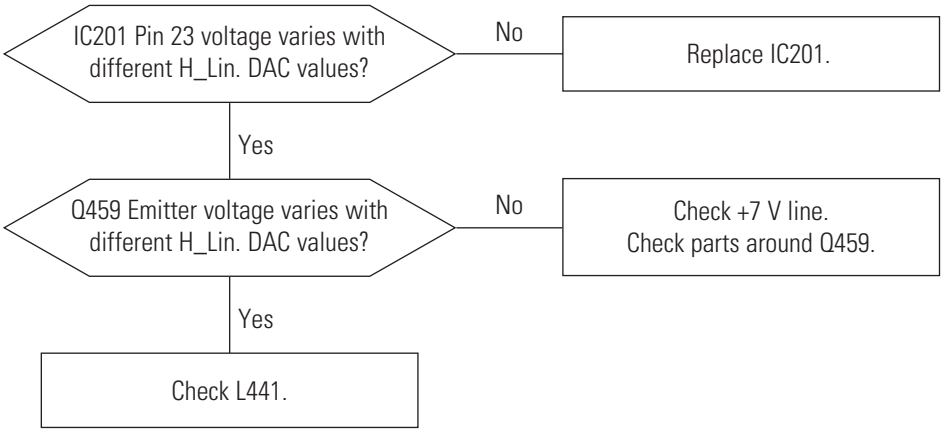
6 Q490, Collector



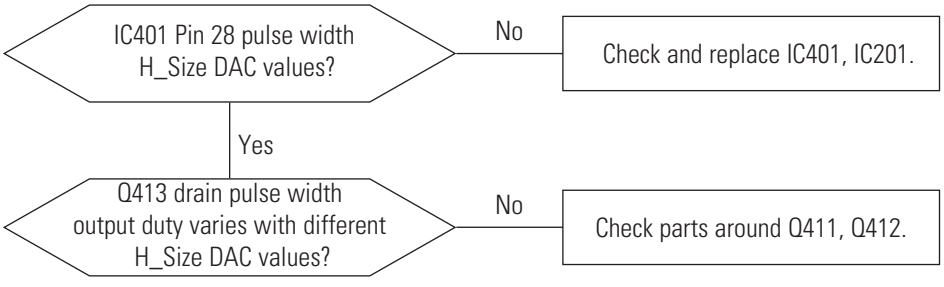
5-1-4 S Correction Failure


Check S1 ~ S4 signal.
Refer to the S-correction table page?
S1~S4 signals are correct at each frequency block?
No
Check and replace IC201.
Yes
Check and replace C451~C456, Q451~Q454, Q455~Q458.

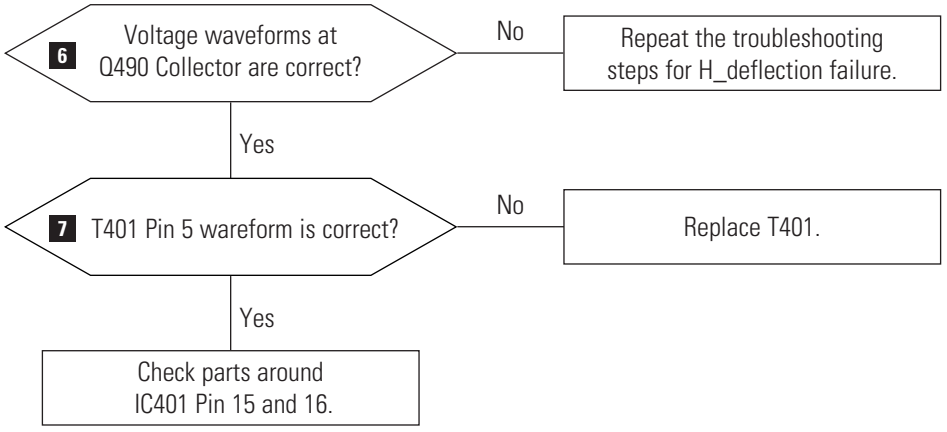
5-1-5 H_Lin. Failure



5-1-6 Invariable H_Size

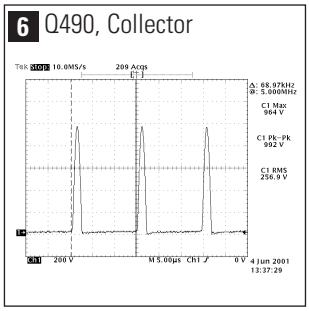

IC401 Pin 28 pulse width H_Size DAC values?
No
Check and replace IC401, IC201.
Yes
Q413 drain pulse width output duty varies with different H_Size DAC values?
No
Check parts around Q411, Q412.

5-1-7 Abnormal H_Size

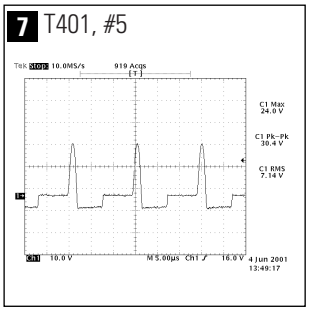


WAVEFORMS

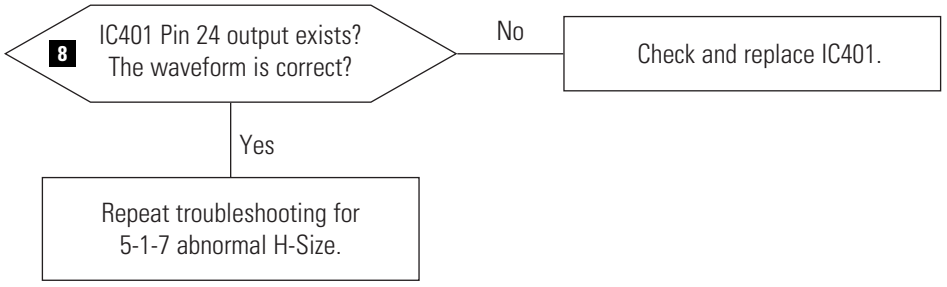
6 Q490, Collector



7 T401, #5

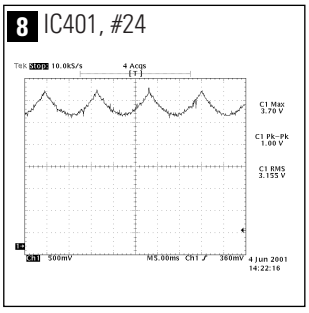


5-1-8 Side Pin or Trap Failure

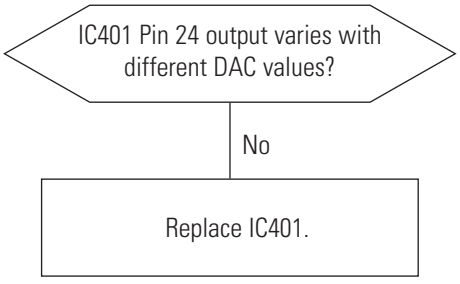


WAVEFORMS

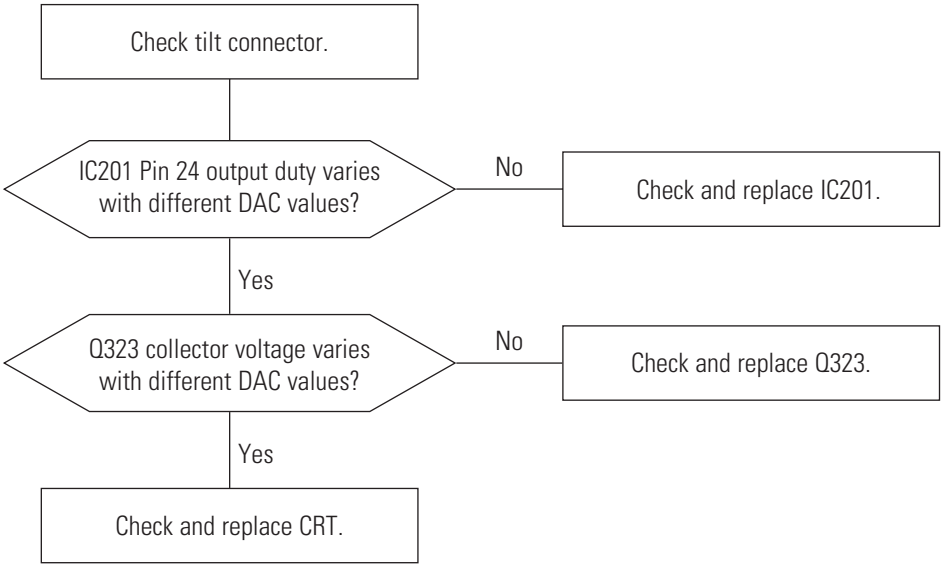
8 IC401, #24



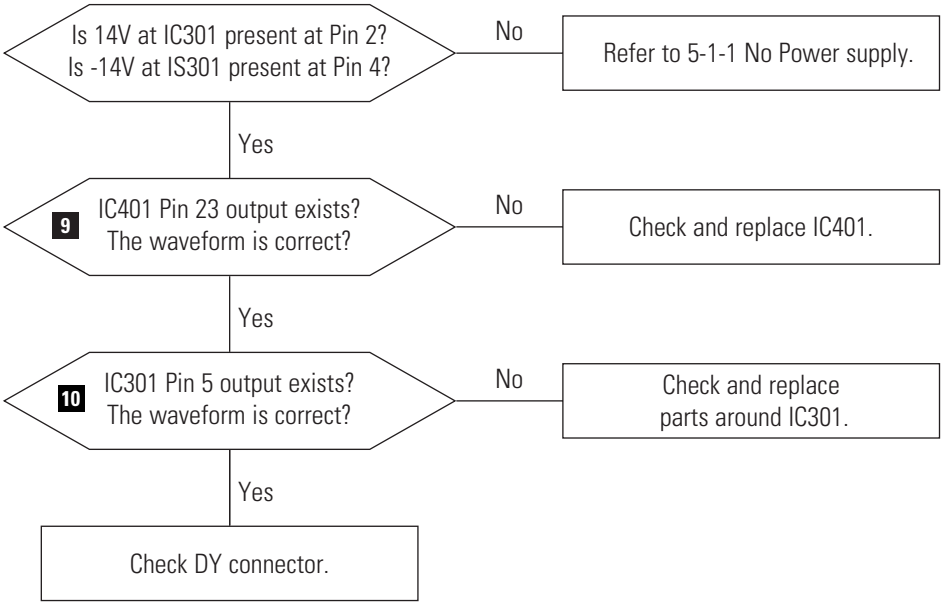
5-1-9 Para. or Pin Balance Failure



5-1-10 Tilt Failure

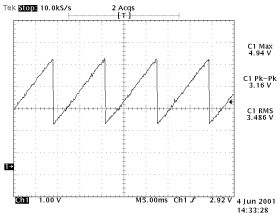


5-1-11 V Deflection Failure

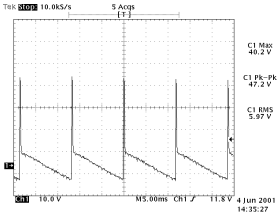


WAVEFORMS

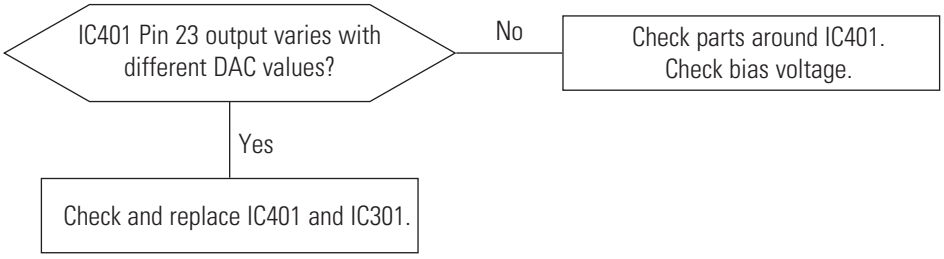
9 IC401, #23



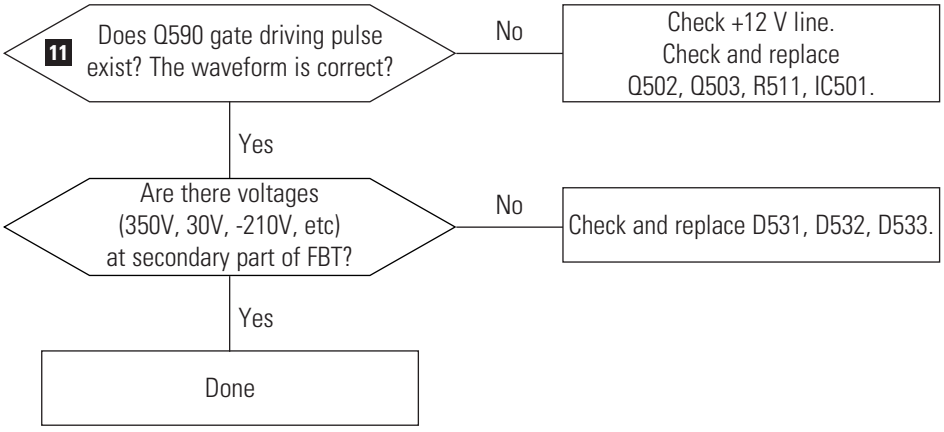
10 IC301, #5



5-1-12 V Size or Pos. Variation Failure

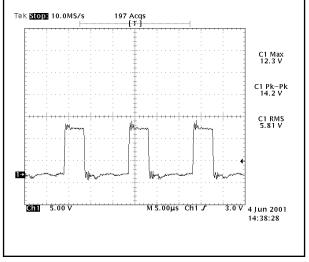

IC401 Pin 23 output varies with different DAC values?
No
Check parts around IC401. Check bias voltage.
Yes
Check and replace IC401 and IC301.

5-1-13 High Voltage Failure

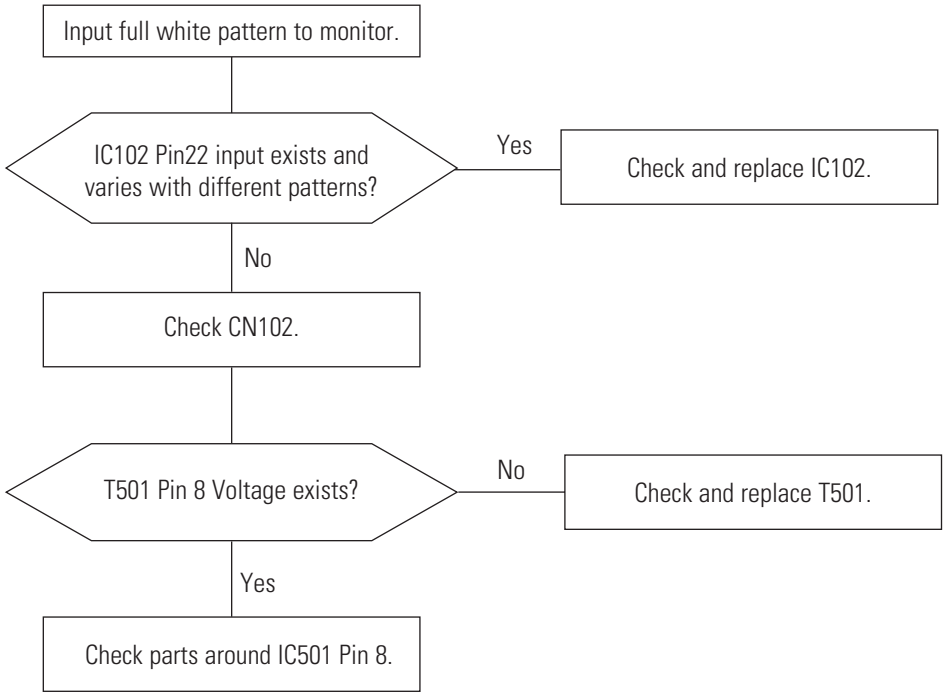

11
Does Q590 gate driving pulse exist? The waveform is correct?
No
Check +12 V line. Check and replace Q502, Q503, R511, IC501.
Yes
Are there voltages (350V, 30V, -210V, etc) at secondary part of FBT?
No
Check and replace D531, D532, D533.
Yes
Done

WAVEFORMS

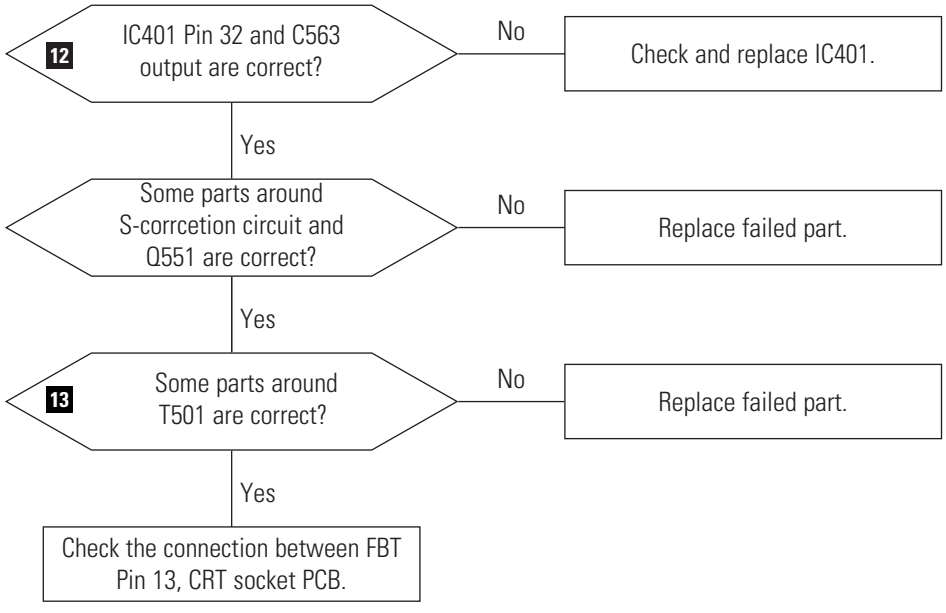
11 Q590, Gate



5-1-14 ABL Failure

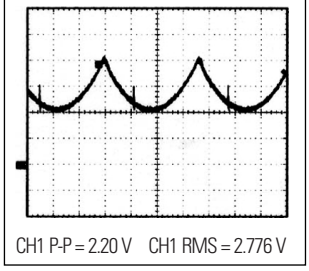


5-1-15 Focus Failure

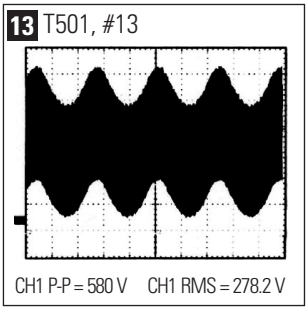


WAVEFORMS

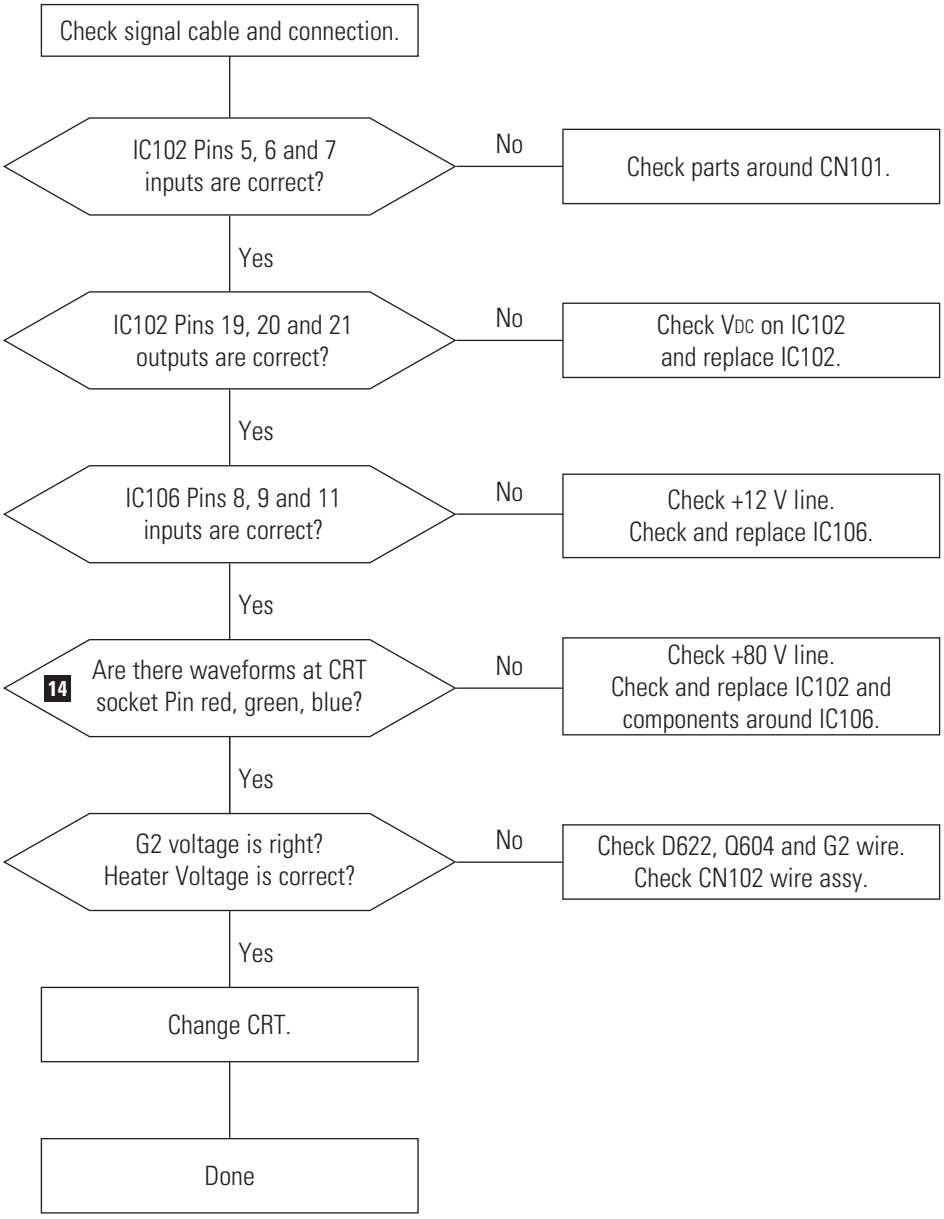
12 C563, 60V



13 T501, #13

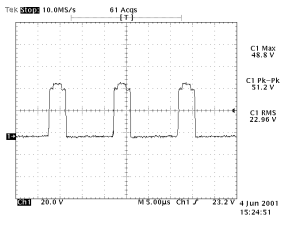


5-1-16 No Video

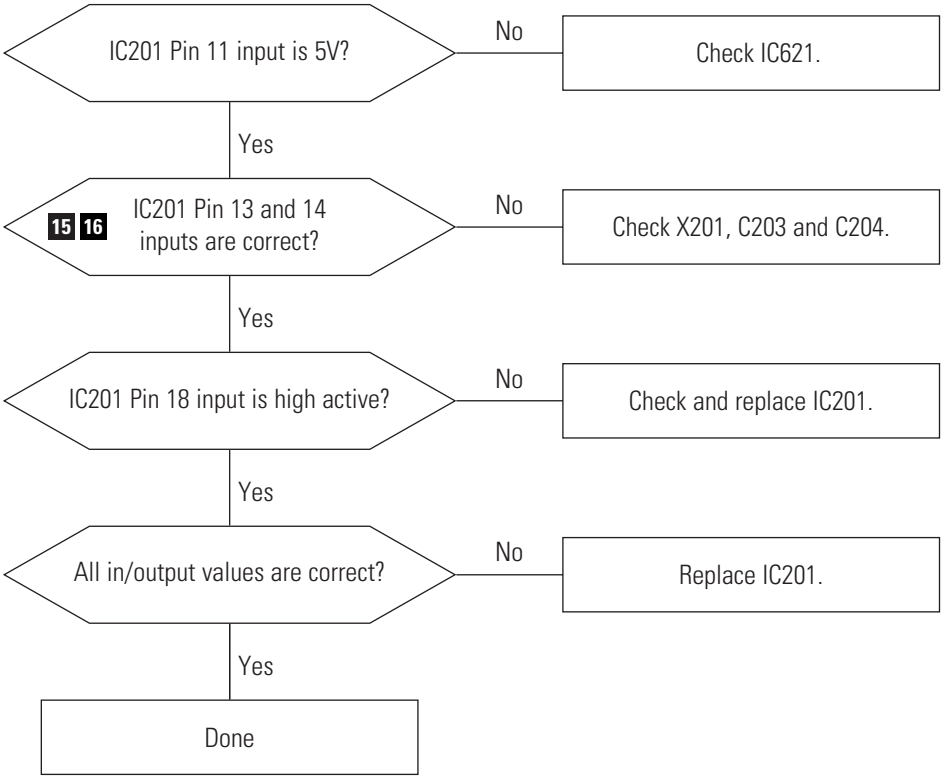

Check signal cable and connection.
IC102 Pins 5, 6 and 7 inputs are correct?
No
Check parts around CN101.
Yes
IC102 Pins 19, 20 and 21 outputs are correct?
No
Check VDC on IC102 and replace IC102.
Yes
IC106 Pins 8, 9 and 11 inputs are correct?
No
Check +12 V line. Check and replace IC106.
Yes
14 Are there waveforms at CRT socket Pin red, green, blue?
No
Check +80 V line. Check and replace IC102 and components around IC106.
Yes
G2 voltage is right? Heater Voltage is correct?
No
Check D622, Q604 and G2 wire. Check CN102 wire assy.
Yes
Change CRT.
Done

WAVEFORMS

14 CRT Socket, Red, Green, Blue

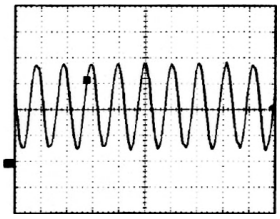


5-1-17 Micom Failure



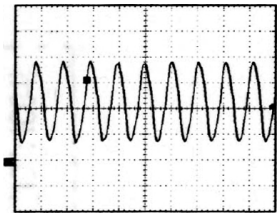
WAVEFORMS

15 3.42 V (IC201, #13)



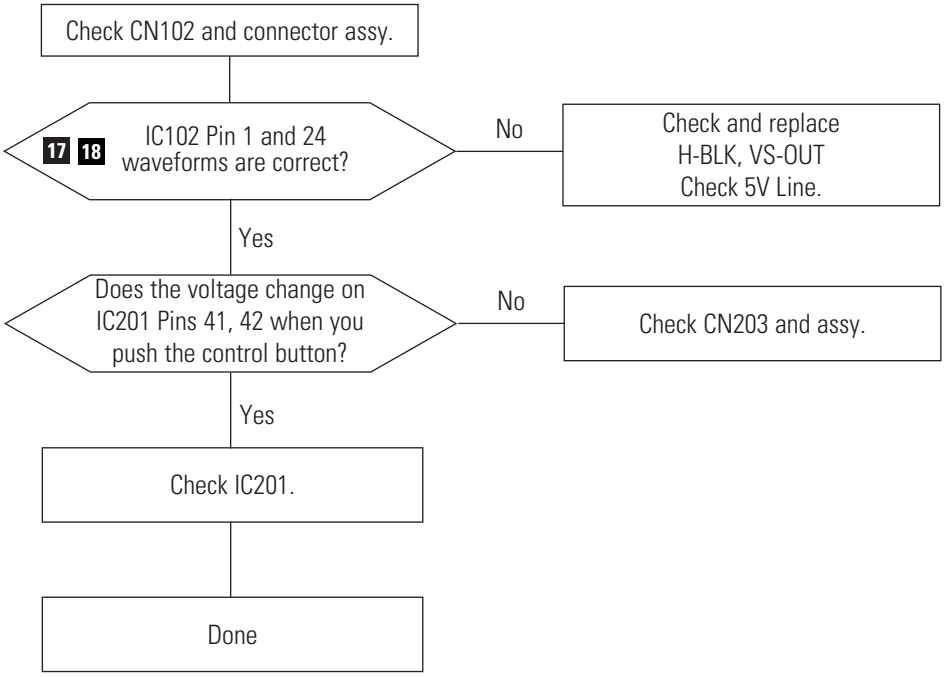
CH1 P-P = 3.42 V CH1 RMS = 2.500V

16 3.16 V (IC201, #14)



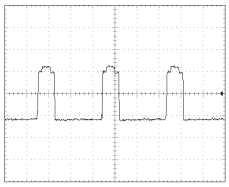
CH1 P-P = 3.16 V CH1 RMS = 2.560 V

5-1-18 OSD Failure

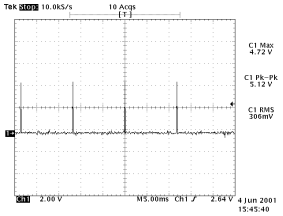

Check CN102 and connector assy.
17 18 IC102 Pin 1 and 24 waveforms are correct?
No
Check and replace H-BLK, VS-OUT Check 5V Line.
Yes
Does the voltage change on IC201 Pins 41, 42 when you push the control button?
No
Check CN203 and assy.
Yes
Check IC201.
Done

WAVEFORMS

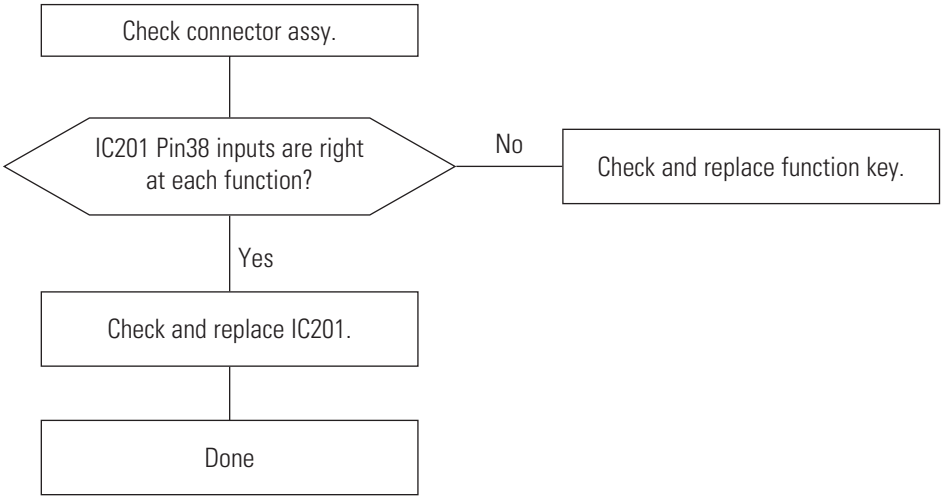
17 IC102, #1



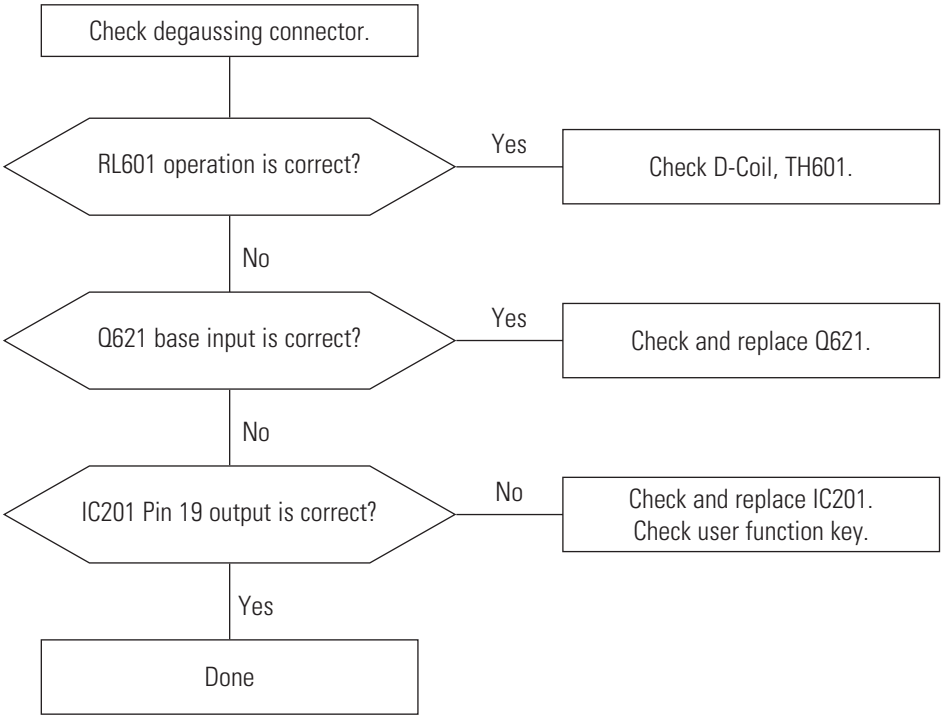
18 IC102, #24



5-1-19 User Control Failure

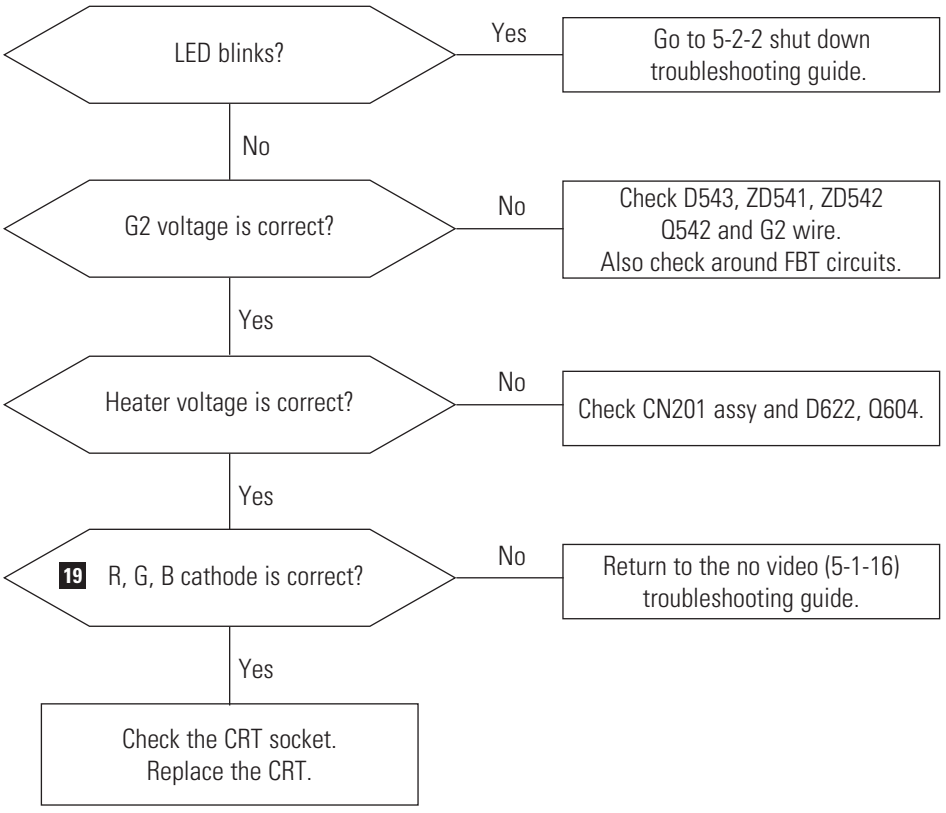


5-1-20 Degaussing Failure



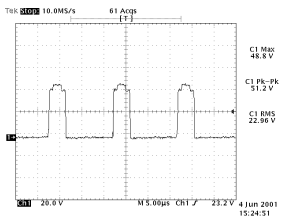
5-2 General Troubleshooting

5-2-1 No Picture

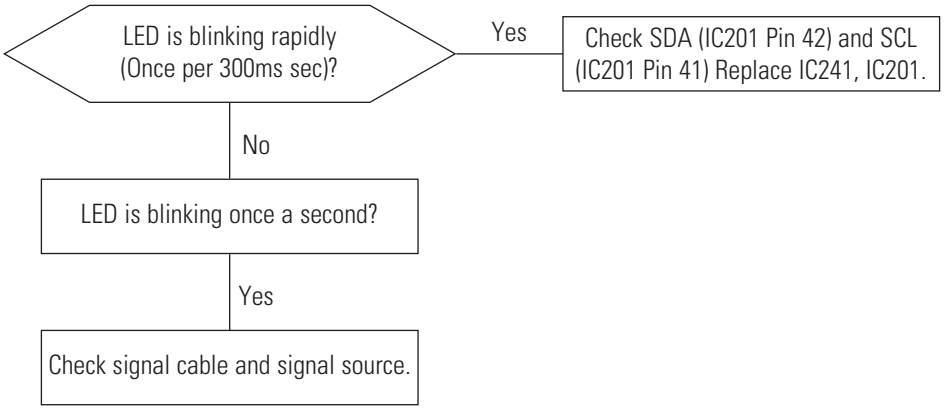


WAVEFORMS

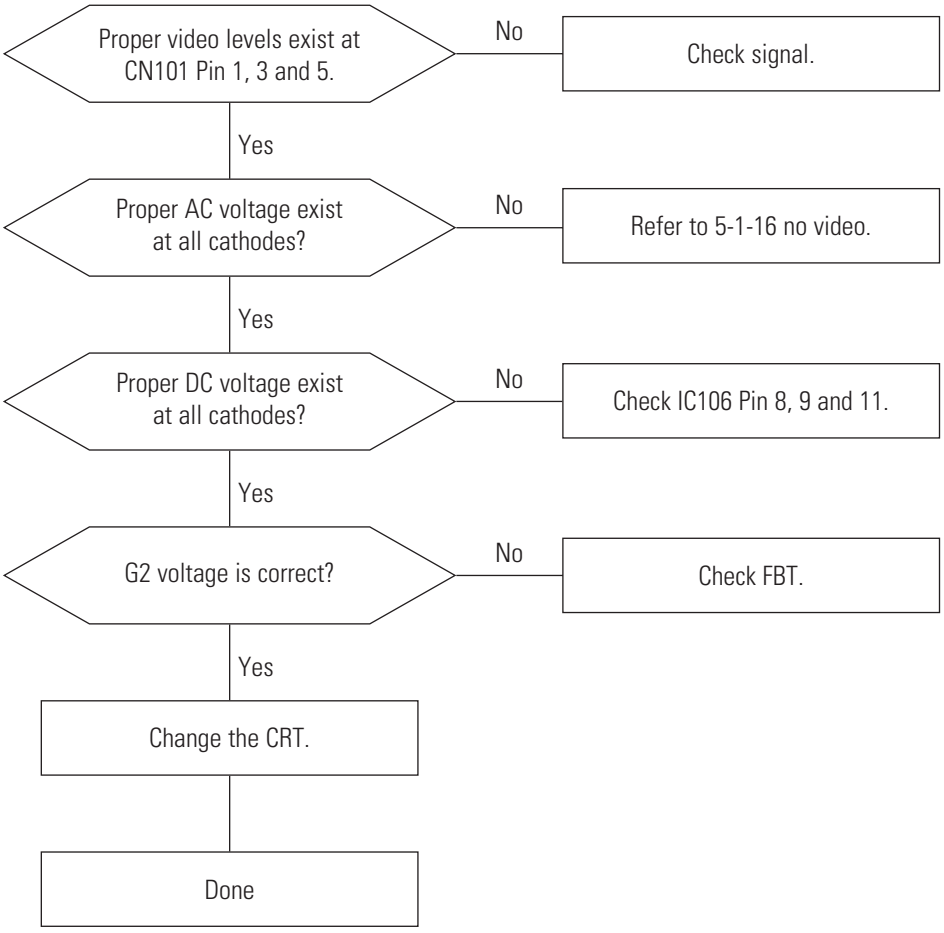
19 R, G, B, Video



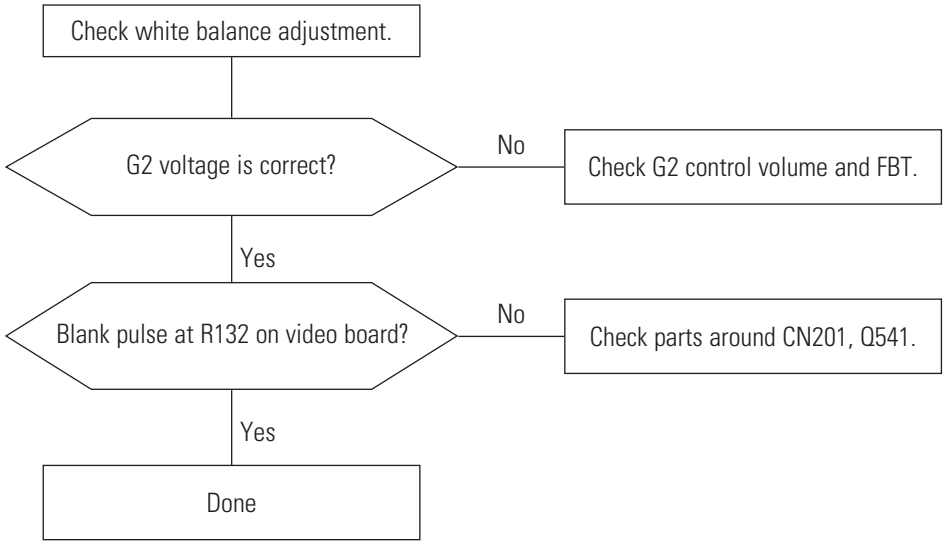
5-2-2 Shut Down


LED is blinking rapidly (Once per 300ms sec)?
Yes
Check SDA (IC201 Pin 42) and SCL (IC201 Pin 41) Replace IC241, IC201.
No
LED is blinking once a second?
Yes
Check signal cable and signal source.

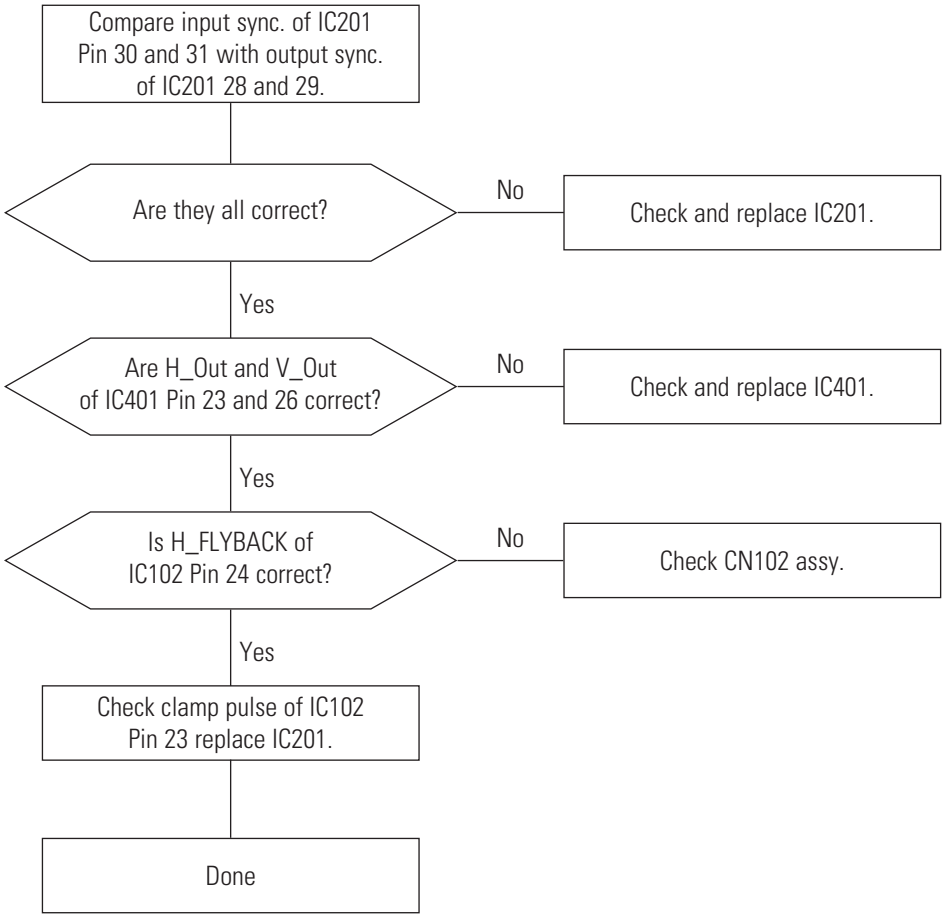
5-2-3 Missing Color



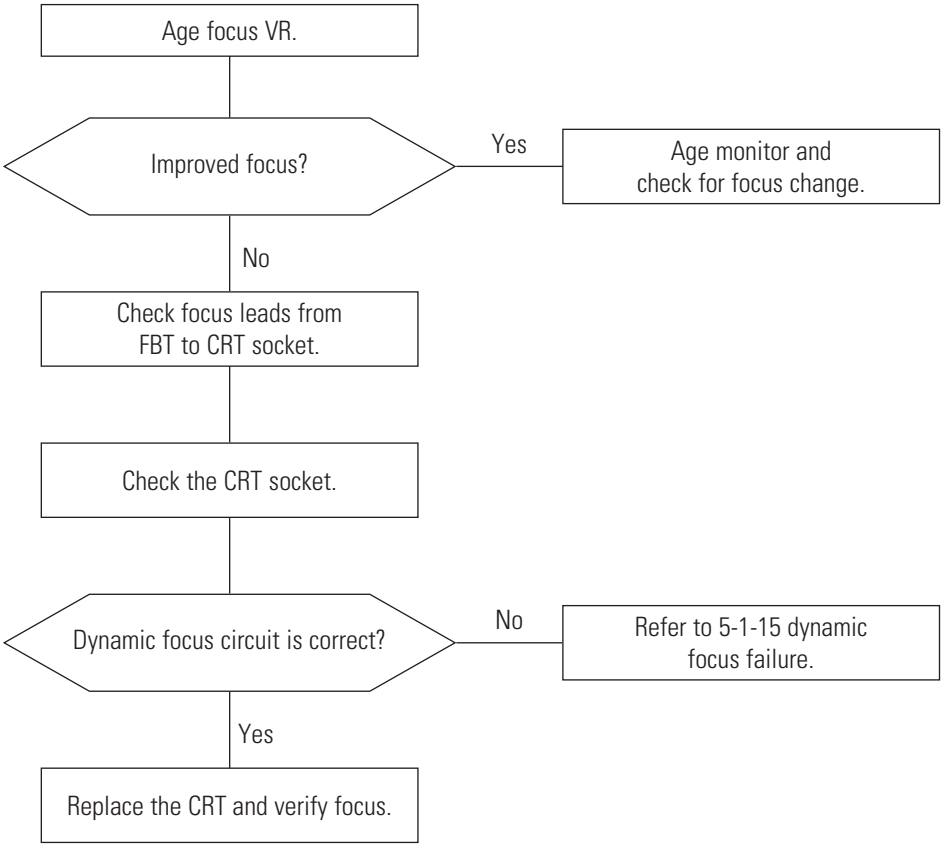
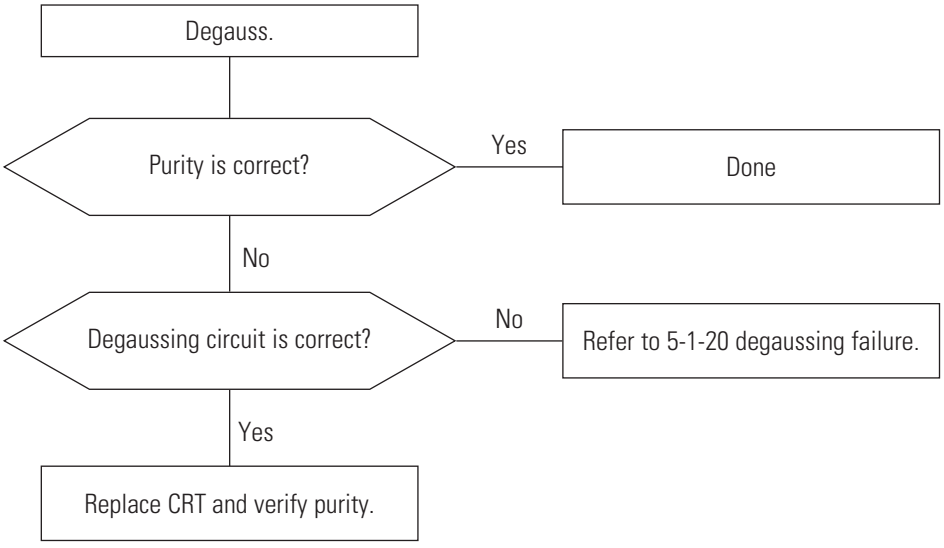
5-2-4 Visible Retrace



5-2-5 Unsynchronized Image


Compare input sync. of IC201 Pin 30 and 31 with output sync. of IC201 28 and 29.
Are they all correct?
No
Check and replace IC201.
Yes
Are H_Out and V_Out of IC401 Pin 23 and 26 correct?
No
Check and replace IC401.
Yes
Is H_FLYBACK of IC102 Pin 24 correct?
No
Check CN102 assy.
Yes
Check clamp pulse of IC102 Pin 23 replace IC201.
Done

5-2-6 Poor Focus



5-2-7 Purity Failure